WHAT IS CLAIMED IS:

1. A distributed simulation system comprising:

a plurality of nodes, wherein each node of the plurality of nodes is configured to simulate a different portion of a system under test, and wherein each node is configured to perform a simulation as a series of timesteps;

wherein a transition between timesteps in the plurality of nodes is synchronized.

2. The distributed simulation system as recited in claim 1 wherein the plurality of nodes are coupled to communicate with each other, and wherein each of the plurality of nodes determines that other nodes of the plurality of nodes are capable of completing a timestep to synchronize the transition between timesteps.

3. The distributed simulation system as recited in claim 1 further comprising a hub coupled to the plurality of nodes, wherein the hub is configured to synchronize the transition between timesteps.

4. The distributed simulation system as recited in claim 3 wherein each node of the plurality of nodes is configured to transmit a first command to the hub indicating that the node is capable of completing a first timestep.

5. The distributed simulation system as recited in claim 4 wherein the first command is a no-operation command.

6. The distributed simulation system as recited in claim 4 wherein the hub is configured to transmit a second command to each node of the plurality of nodes in response to receiving the first command from all nodes, and wherein each node is configured to

transition to the next timestep in response to the second command, whereby the transition is synchronized.

7. The distributed simulation system as recited in claim 6 wherein the second command is a predefined command transmitted to each node.

8. The distributed simulation system as recited in claim 6 wherein the hub is configured, if at least one command which is not the first command is received from the plurality of nodes, to transmit commands other than the second command to each node.

9. The distributed simulation system as recited in claim 8 wherein each node of the plurality of nodes is configured to iterate evaluating events within the first timestep in response to receiving a command other than the second command.

10. The distributed simulation system as recited in claim 1 wherein each timestep comprises at least a first phase and a second phase, and wherein a transition between each phase is synchronized in the plurality of nodes.

11. A method comprising:

evaluating events within a first timestep in a plurality of nodes, each of the plurality of nodes simulating a different portion of a system under test and configured to perform a simulation as a series of timesteps; and

synchronizing a transition in the plurality of nodes from the first timestep to a second timestep.

12. The method as recited in claim 11 wherein the synchronizing comprises:

receiving a first command from each node of the plurality of nodes indicating that the node is capable of completing the first timestep; and

transmitting a second command to each node of the plurality of nodes in response to the receiving, wherein each of the plurality of nodes is configured to transition to the second timestep in response to the second command.

13. The method as recited in claim 12 wherein the first command is a no-operation command.

14. The method as recited in claim 12 wherein the second command is a predefined command transmitted to each of the plurality of nodes.

15. The method as recited in claim 12 further comprising, in response to receiving at least one command which is not the first command from one of the plurality of nodes, transmitting commands other than the second command to each of the plurality of nodes.

16. The method as recited in claim 15 further comprising iterating the evaluating in at least one of the plurality of nodes in response to receiving a commands other than the second command.

17. The method as recited in claim 11 wherein the first timestep includes at least a first phase and a second phase, wherein the synchronizing comprises synchronizing a transition between the first phase and the second phase.

18. A carrier medium comprising instructions which are executable to:

receive a first command from each of a plurality of nodes, each of the plurality of nodes simulating a different portion of a system under test and configured

to perform a simulation as a series of timesteps; and

synchronize a transition in the plurality of nodes from a first timestep to a second timestep in response to receiving the first command from each of the plurality of nodes.

19. The carrier medium as recited in claim 18 wherein the instructions are executable to synchronize the transition by transmitting a second command to each of the plurality of nodes.

20. The carrier medium as recited in claim 19 wherein the instructions are executable to transmit commands other the second command if at least one command other than the first command is received from the plurality of nodes.

21. A carrier medium comprising instructions executable to:

transmit a first command to a hub if a node is ready to transition from a first timestep to a second timestep; and

transition to the second timestep in response to receiving a second command from the hub.

22. The carrier medium as recited in claim 21 wherein the instructions are further executable to evaluate a plurality of events within the first timestep prior to transmitting the first command.

23. The carrier medium as recited in claim 22 wherein the instructions are further executable to iterate evaluating events within the first timestep subsequent to transmitting the first command if a command other than the second command is received from the

hub.

Patent Application Publication